

### Section 03. Challenges in Environmental Protection

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## **Chernobyl Disaster: Harmful Result**

The Chernobyl disaster was a nuclear accident, which occurred on 26 April 1986 in the reactor №4 at the Chernobyl Nuclear Power Plant near Pripyat. The people who lived in the Chernobyl zone during the accident suffer from various diseases. After the accident, several thousand people were diagnosed with radiation sickness. Children have a lot of congenital disorders, including cancer and heart diseases.

A large increase in the incidence of these diseases can be attributed to the influence of the radioactive dust to the population released. 4 dangerous substances that fall into the environment in the explosion. Plutonium is carcinogenic, and can cause lung cancer. It has the property of concentrating in the hematopoietic areas of the bones and can cause disease many years after it hits. Cesium 137. About 80% of the ingested cesium accumulates in the muscles, 8% - in the skeleton, the remaining 12% are distributed evenly over other tissues. Iodine 131 - has a negative effect on the functioning of the human thyroid gland. The accumulation of radioactive iodine in large quantities leads causes thyroid cancer. Strontium 90 is a chemical analogue of calcium, so it is most effectively deposited in bone tissue.

Near the reactor there was a pine forest with an area of 4 km<sup>2</sup>. Under the influence of radioactive radiation, it turned into brown. After that he got the name "red forest". As a result of the accident, about 5 million hectares of land were removed from the agricultural turnover. Also around the NPP a 30-kilometer exclusion zone was created, destroyed and buried hundreds of small villages and towns. Many animals have died or have ceased to reproduce. Some horses stayed on an island near the Chernobyl zone. They died when their thyroid glands were destroyed by radiation doses. The next generation was born normal. As a result of the Chernobyl disaster, mutants appeared. They are descendants of people and animals. Mutants are born with various deformations. Foal with five legs, a calf with two heads, fish and birds of unnaturally huge size, giant mushrooms. Experts assure that the consequences of the accident will be observed for another 100 years. During this time, the severity of these consequences should decrease. After twenty-five years the wild nature returned to the contaminated area.

The Chernobyl nuclear power plant is located next to the Pripyat River. This is a part of Dnieper reservoir system, which at the time supplied water to Kiev's 2.4 million residents. So the problem of water pollution has become one of the most important problems of the accident. The result of water pollution was a significant excess of the level of radioactive substances in fish.